ECCOTEMP
THE FUTURE OF EFFICIENCY

ECCOTEMP

Point of Use Tankless Water Heaters

EP-2.4 / EP-7.0

Installation and Operating Instruction Manual

Product Support
Eccotemp.com/help-desk

Shop Online
Eccotemp.com/products

Store Locator
Eccotemp.com/locator

866-356-1992
support@eccotemp.com
315-A Industrial Road, Summerville, SC 29483

ELECTRIC TANKLESS POINT OF USE WATER HEATER

INSTALLATION GUIDE & OWNERS MANUAL

This manual is provided as a guide to installation. All installations must comply with any and all local and national electrical and plumbing codes. Warranty of this heater will depend on proper installation and operation. The manufacturer will not be liable if the heater has been modified in any way or the installation and operating instructions outlined in the following pages have not been followed in their entirety.

Your Eccotemp water heater can be serviced by most heating, plumbing or HVAC repair centers in your area. If your preferred service center does not already have Eccotemp service information, Eccotemp will promptly provide the necessary information to the service center on request. For information regarding service companies in your area, please contact your original installer or Eccotemp.

Eccotemp Systems, LLC
315-A Industrial Rd.
Summerville, SC 29483
866-356-1992
Support@Eccotemp.com

If you have any questions regarding the installation or performance of this heater, please call Eccotemp's customer service department and provide the information listed below:

Model: _____

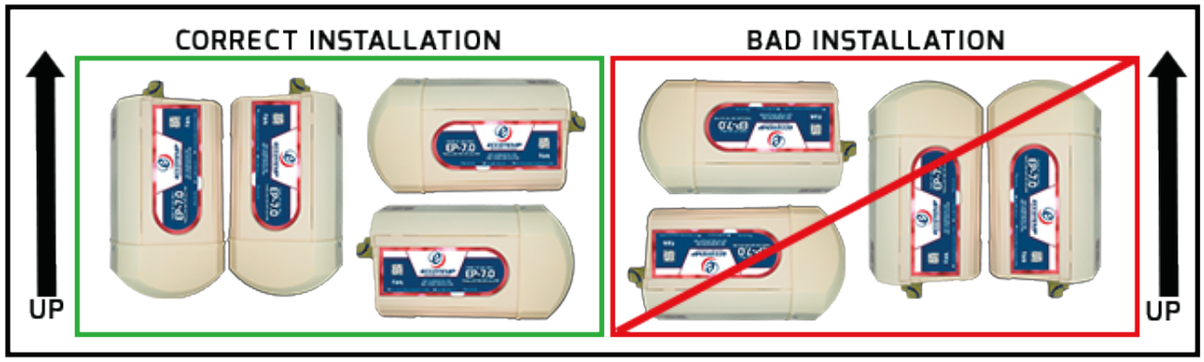
Serial Number: _____

Install Date: _____

ANY RETURNS AUTHORIZED BY Eccotemp MUST HAVE A VALID RETURN MERCHANDISE AUTHORIZATION NUMBER CLEARLY VISIBLE ON THE PACKAGE. ALL OTHER SHIPMENTS WILL BE REFUSED. BE SURE TO RETURN THE PACKAGE TO THE ADDRESS LISTED ON THE AUTHORIZATION

A. MOUNTING THE UNIT

The unit must be mounted level on the wall (or with the water fittings up to 3° higher in the vertical position). Be sure to allow adequate clearance and proper orientation for field wiring installation and inspection. It can only be mounted in one of four possible orientations as shown in the diagram below. The water fittings must be at the top when mounted vertically or toward the top left or top right when mounted horizontally with the word **ECCOTEMP** right side up on the cover.



FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN SERIOUS DAMAGE TO THE UNIT

1. The cold-water inlet and hot-water outlet are clearly marked and must not be reversed.
2. The heater should be fastened to the wall using the included mounting bracket. Remove the bracket from the heater and secure it to a solid wall surface. Be sure the bracket is level and in the proper orientation. If mounting to a hollow wall, care should be taken to locate a stud or to use appropriate hollow wall anchors. After mounting the bracket, slide the unit onto the bracket and replace the screws to secure the unit to the bracket.
3. Never solder water supply lines to the heater's fittings. Heat from soldering may damage the one-piece fittings and tank. Do not use Plumber's Putty or PVC/CPVC primer and glue on the threads of the heater's inlet and outlet fittngs. These products may dissolve the threads on the heater's fittngs causing permanent damage and/or leaks. Teflon tape is the only sealer that should be used on the threads of the fittings or included adapters.
4. Open the valve on any nearby sink allowing water to run for a couple of minutes to ensure that all air is purged from the unit.
5. T&P Valve/Anti-scald Device: National codes do not require the installation of these devices. Consult local codes for requirements for external T&P or Anti-Scald devices.

B. PLUMBING HOOK-UP

1. The unit is supplied with 3/4" NPT fittings molded into the heating chamber. DO NOT USE PIPE DOPE OR PVC PRIMER OR GLUE ON THE FITTINGS. DO NOT USE A TORCH ON ANY FITTING CONNECTED TO THE HEATER. Use only TEFLON TAPE on the threads ensuring that no tape or debris enters the heater.
2. If an adapter is required to reduce fitting size, use the enclosed adapter with O-ring. No additional sealants or teflon tape is required. For other adapters, be sure to use 3/4 NPT fittings and seal with TEFLON TAPE ONLY. Connect plumbing to the adapters with teflon tape.
3. 3. Flex-pipe is recommended for ease of installaIon and service. Where fixed pipe is used, a plumbing union is recommended for ease of service.
4. Always use two wrenches to tighten plumbing fittings to the heater to avoid stress to the fittings and heating chamber.
5. Install ball valves on the inlet and outlet pipes to allow isolation of the heater for service. Be sure both valves are open prior to activating the heater.
6. Recommended operating pressure is 60 to 80 PSI. For installations with higher pressure a PRV is required. For installations above the ceiling or attic, a bleed air separator is recommended. Where water hammer exists, a properly sized arrestor should be installed.
7. Run water through the unit for a few minutes until all visible air is purged from the lines and unit and the flow is continuous without spitting air.

NOTE: ALL PLUMBING MUST BE COMPLETED BEFORE STARTING ELECTRICAL HOOKUP
TEST ALL CONNECTIONS FOR LEAKS BEFORE CONNECTING ELECTRICITY

C. COMMISSIONING THE UNIT

1. Open all ball valves and turn on water outlets.
2. Activate power at breaker.
3. Cycle the water on and off and verify unit operation.
4. Verify temperature and adjust as necessary.
5. If desired temperature is not reached, verify flow and sizing information to ensure adequately sized unit has been installed.

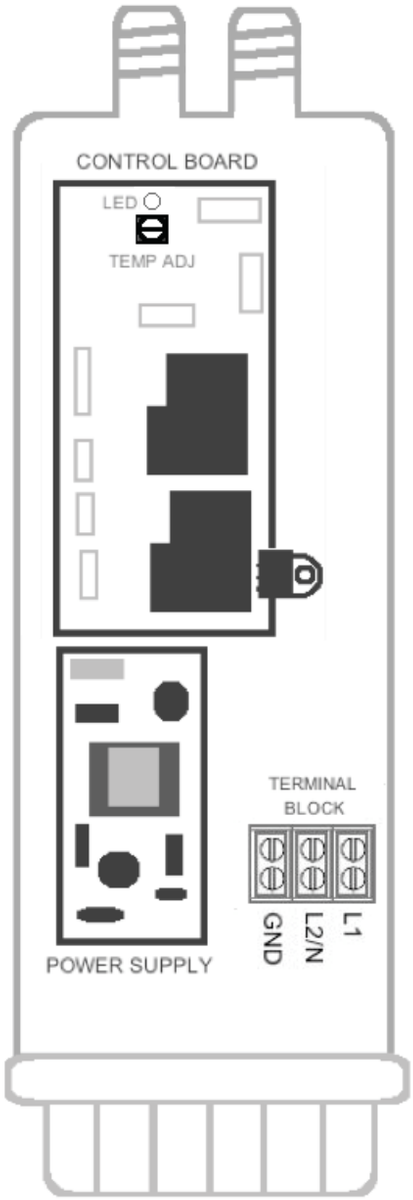
D. ELECTRICAL HOOK-UP

1. Wire entry into the unit should be made through the knockout in the bottom of the cover.
2. Cover End Cap must be removed to allow installation and inspection of proper wiring. (Verify correct installation in accordance with diagram on page 2 of this manual prior to wiring unit for proper operation).
3. Proper connectors should be chosen for the wire/conduit selected.
4. Connect properly sized copper leads to the terminal block as shown.
5. Connect the power circuits to L1 and L2 as shown and the ground to GND. (For 120V models connect the Neutral to L2/N on the terminal block).

PRE-POWER CHECK:

1. Verify that all connections are secure.
2. Verify that an adequate ground has been properly connected.
3. Verify that adequate sized breakers have been properly connected. Remember that breakers that are too large are more dangerous that breakers that are too small.
4. Verify proper wire size has been used for connection.
5. Check voltage at the terminal block for each circuit.

ELECTRICAL WIRING DIAGRAM



TERMINAL BLOCK CONNECTIONS

120V	208/240/277V
L1	L1
N	L2
GND	GND

THIS INSTALLATION MUST BE DONE BY A QUALIFIED AND LICENSED CONTRACTOR.
Refer to your local electric and plumbing codes for additional information.

VERIFY PROPER INSTALLATION PRIOR TO WIRING UNIT (SEE DIAGRAM ON PAGE 2)

E. Limited Warranty

Eccotemp Systems, LLC, hereinafter Eccotemp, warrants the Chamber Body and Heating Element of its tankless water heaters against defects in materials and workmanship for a period of three years. The Chamber Body and Heating Element as referred to herein shall mean the plastic body of the heat exchanger and the standard immersion heat element itself, and does not include component parts attached to them.

Eccotemp warrants the Circuit Board and other Electronic Components to be free of defects in materials and workmanship for a period of eighteen (18) months. All other parts are warranted for a period of one (1) year. This warranty begins on the date of retail purchase or, in the absence of proof of purchase, from the date of manufacture.

Circuit Board or Chamber Body replacements to the original purchaser, made after the initial warranty expires and not later than five years will be replaced by Eccotemp, subject to replacement charges not to exceed 25% of the current manufacturer's suggested retail price of the unit model for which it was originally installed, or a currently sold comparable unit. Shipping charges are not included.

Eccotemp reserves the right to use remanufactured parts when repair becomes necessary. When advance shipping of replacements are requested, Eccotemp may require a deposit until the failed items are returned and inspected for warranty coverage. This warranty does not cover the cost of any shipping or labor charges.

EXCLUSIONS AND LIMITATIONS OF THESE LIMITED WARRANTIES

THE LIMITED WARRANTIES PROVIDED HEREIN ARE IN LIEU OF ANY AND ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND THE FITNESS FOR A PARTICULAR PURPOSE; PROVIDED, HOWEVER, THAT IMPLIED WARRANTIES ARE NOT DISCLAIMED DURING THE ONE YEAR PERIOD FROM THE DATE OF ORIGINAL RETAIL PURCHASE.

Eccotemp SHALL HAVE NO LIABILITY HEREUNDER EITHER DIRECT OR CONTINGENT, FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may have other rights THAT vary from state to state.

These warranties shall be void and have no effect:

1. If the Eccotemp heater is not used for its intended application;
2. If the design or structure of the Eccotemp heater is modified or altered in any way;
3. If appliances or equipment not approved by Eccotemp are attached to the water heater;
4. If the water heater is not property installed in compliance with the latest issue of (1) the National Electric Code, (2) the applicable plumbing codes, (3) all local ordinances and regulations pertinent to similar water heaters, and (4) the installation guide and operational manual provided with the Eccotemp water heater;
5. If the Eccotemp water heater is installed upside-down, or is not protected from freezing;
6. If the Eccotemp water heater is not operated within the factory calibrated temperature limits;
7. If leaks or defects arise as the result of improper use, improper installation, negligence in operation, failures resulIng from accident, or from inability of the Eccotemp water heater or any parts to function because of improperly made replacements and repairs, or damage by fire, floods, lightning, or any other act of God;
8. If the plumbing design allows water to flow in reverse through the Eccotemp heater;
9. If the Eccotemp heating element(s) fail due to air entrapment;
10. If the serial number has been altered or has become illegible;
11. If the Eccotemp heater is installed in any area where leakage of the tank or connections would result in property damage of any kind, or where such a location is unavoidable, a suitable drain pan was not installed under thewater heater. (When a drain pan must be used, the pan must meet all applicable plumbing codes and be at least 2 1/2"deep, extending not less than 1" above the unit's base plates, must protect an area at least 1-1/2" greaterthan the lower external dimensions of the heater, and must be piped by a minimum 1" pipe to an adequate drain;
12. If the Eccotemp heater or any of its components warranted herein are used other than as a part of the complete and integrated system as sold to the original purchaser;
13. If leaks in the tank or defects in other parts occur as a result of the Eccotemp heater containing or being operated with de-ionized water;
14. If leaks in the tank or defects in other parts arise as a result of sizing that does not comply with the manufacturer's currently published sizing recommendations;

Replacements and/or repairs furnished under this warranty carry only the unexpired portion of the original warranty or 90 days whichever is longer.

The terms of this warranty may not be varied by anyone, whether or not purporting to represent or act on behalf of Eccotemp.

F. Applications

Point of Use Models

Point of Use Models are designed to be connected to the COLD water line near the desired point of use needing hot water. Unit must be properly sized to provide sufficient hot water for the desired number of fixtures to be served. Contact your dealer or Eccotemp sales representative for assistance in sizing for your application.

Point of Use Models can also be connected to the HOT water line at the point of use to provide hot water sooner than is possible from the main hot water source located in a central location a longer distance from the fixture. As all Eccotemp models are temperature rather than flow controlled, the POU unit will modulate and add only the amount of energy necessary to maintain the hot water set point and return to standby once hot water arrives from the primary hot water source. This offers energy AND water savings over other alternatives such as recirculation.

TROUBLESHOOTING

The Eccotemp microprocessor control depends on the temperature information it receives from each of the temperature sensors to detect water flow and maintain proper temperature. If any sensor or its connection to the circuit board is bad, the Eccotemp may not turn on at all or if it does the temperature may fluctuate. Whenever servicing a Eccotemp, the proper operation of the sensors and the circuit board should **always** be verified regardless of the trouble code. Eccotemp recommends you follow the pre-service checklist every time you service the unit to verify proper operation.

PRE-SERVICE CHECKLIST:

- Verify Installation:
- Verify proper plumbing, cold to the inlet and hot to the outlet.
- Verify flow rate matches the specifications of the unit.
- Verify the heater is mounted properly and level. INLET NIPPLES ARE ALWAYS AT THE TOP OF THE UNIT WHETHER MOUNTED HORIZONTAL OR VERTICAL.
- Record the serial number in the event you need to contact Eccotemp Customer Service.

Tests with Power OFF

- Verify water flow through the heater. Check that shut off valves are in the open position.
- Check the plumbing and the unit for any signs of leaks.
- Check for any loose wires to the circuit board and verify the power connections are tight. If stranded wire is used, check that all strands are inside the lug.
- Tests with Power ON
- Verify circuit breakers are turned on and verify power to the heater. Check the voltage at the terminal block.
- Check the circuit board LED for any diagnostic codes. Visit http://www.eccotemp.com or contact customer service for latest diagnostic code information.

HEATER TESTING – TEST WITH POWER OFF AND METER SET TO MEASURE RESISTANCE

COMPONENT	EXPECTED RESULTS
Temperature sensors	Readings should be taken after the heater has been cooled down so that the temperature in the chamber is uniform. (Run water with power off for 3-5 minutes) All sensor resistance measurements should be within 10% of the others.
Heating Elements	Read across screws at the Red & Black wires. Typical readings are in the range of 5 to 14 ohms but vary with wattage and voltage.
Moisture Detect Switch	Should normally read open. If closed, check for water leaks or water on the switch pad. Correct the leak, dry the switch and retest.

POWER ON TESTS (SHOULD ONLY BE PERFORMED BY A QUALIFIED TECHNICIAN)

COMPONENT	TEST	EXPECTED RESULTS
Incoming Power Lugs	Voltage	L1 to L2: 208-277 VAC depending on model; L1 to Neutral 110-120 VAC (for 120V models).
Heating Element	Amps	Measure Amps on wires leading to element with water flowing, Maximum reading at full power calculated as Watts/Volts.

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